# APPENDIX C

# Characteristics of Soil Units in the Project Area

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| Soil Map Unit Name and Number | Acreage in Project Area[1] | Soil Series Name | Soil Texture | Parent Material | Landform | Slope | Depth Class | Drainage Class | Runoff | Water Erosion Potential (Kw) | Wind Erodability Index (tons/ac/yr) | Available Water Supply | Rooting Depth | SAR | Restoration Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Badland-Rock outcrop complex, 1 to 100 % slopes (12) | 1,177 | Badland | --- | Soft geologic material | Barren land dissected by intermittent drainage channels | 1 to 100 % | Very shallow | --- | Very high | 0.10 | 86 | 0.3 | > 200 | 10 | Not rated |
| | | Rock outcrop | --- | Bedrock | Cliffs, escarpments, ledges, and erosional remnants | 1 to 100 % | --- | --- | Very high | | | | | | |
| Boreham loam, 0 to 2 % slopes (27) | 3,583 | Boreham | Loam | Loamy alluvium over loamy-skeletal alluvium derived from sedimentary and metamorphic rocks | Fan remnants and strath terraces | 0 to 4 % | Very deep | Well drained | Negligible to low | 0.37 | 86 | 16.33 | > 200 | 6.9 | Low |
| Cadrina extremely stony loam-Rock outcrop complex, 25 to 50 % slopes (36) | 23 | Cadrina | Extremely stony loam | Slope alluvium and colluvium over residuum derived from shale and sandstone | Hillslopes | 2 to 50 % | Very shallow to shallow | Well drained | High | 0.05 | 0 | 1.9 | 36 | 3 | Low |
| | | Rock outcrop | --- | Bedrock | Cliffs, escarpments, ledges, and erosional remnants | 1 to 100 % | --- | --- | Very high | | | | | | |
| Cadrina-Casmos-Rock outcrop complex, 2 to 40 % slopes (38) | 8,138 | Cadrina | Extremely stony loam | Slope alluvium and colluvium over residuum derived from shale and sandstone | Hillslopes | 2 to 50 % | Very shallow to shallow | Well drained | High | 0.15 | 0 | 1.77 | 38 | 3 | Low |
| | | Casmos | Channery loam | Slope alluvium and colluvium over residuum from sandstone, siltstone, and shale | Hillslopes, canyons, ridges, and structural benches | 2 to 70 % | Very shallow to shallow | Well drained | Low to very high | | | | | | |
| | | Rock outcrop | --- | Bedrock | Cliffs, escarpments, ledges, and erosional remnants | 1 to 100 % | --- | --- | Very high | | | | | | |
| Cakehill sandy loam, 2 to 5 % slopes (41) | 1,824 | Cakehill | Sandy loam | Eolian deposits and slope alluvium over residuum derived from sandstone | Strath terraces | 2 to 5 % | Moderately deep | Well drained | Low | 0.28 | 86 | 9.38 | > 200 | 16.3 | Low |
| Green River loam, 0 to 2 % slopes, occasionally flooded (88) | 14 | Green River | Loam | Alluvium derived from sedimentary, metamorphic, and igneous rocks | Floodplains, floodplain steps, levees, and terraces | 0 to 4 % | Very deep | Somewhat poorly to moderately well drained | Very low to low | 0.37 | 86 | 7.16 | > 200 | 10.6 | Low |
| Ioka very gravelly sandy loam, 0 to 3 % slopes (113) | 263 | Ioka | Very gravelly sandy loam | Alluvium and slope alluvium derived from sedimentary and metamorphic rocks | Alluvial flats, alluvial fans, and fan remnants | 0 to 25 % | Very deep | Excessively drained | Very low to moderate | 0.20 | 86 | 4.24 | > 200 | 9 | Low |
| Ioka very gravelly sandy loam, 4 to 25 % slopes (114) | 1,928 | Ioka | Very gravelly sandy loam | Alluvium and slope alluvium derived from sedimentary and metamorphic rocks | Alluvial flats, alluvial fans, and fan remnants | 0 to 25 % | Very deep | Excessively drained | Very low to moderate | 0.10 | 48 | 4.2 | > 200 | 6.5 | Low |
| Ioka-Cadrina complex, 2 to 25 % slopes (115) | 1,441 | Ioka | Very gravelly sandy loam | Alluvium and slope alluvium derived from sedimentary and metamorphic rocks | Alluvial flats, alluvial fans, and fan remnants | 0 to 25 % | Very deep | Excessively drained | Very low to moderate | 0.10 | 48 | 3.18 | > 200 | 6.5 | Low |
| | | Cadrina | Extremely stony loam | Slope alluvium and colluvium over residuum derived from shale and sandstone | Hillslopes | 2 to 50 % | Very shallow to shallow | Well drained | High | | | | | | |
| Jenrid sandy loam, 0 to 2 % slopes (120) | 2,355 | Jenrid | Sandy loam | Alluvium derived from sedimentary rocks | Alluvial flats | 0 to 2% | Very deep | Well drained | Low | 0.28 | 86 | 7.25 | > 200 | 8 | Low |

| Soil Map Unit Name and Number | Acreage in Project Area[1] | Soil Series Name | Soil Texture | Parent Material | Landform | Slope | Depth Class | Drainage Class | Runoff | Water Erosion Potential (Kw) | Wind Erodability Index (tons/ac/yr) | Available Water Supply | Rooting Depth | SAR | Restoration Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jenrid-Green River Complex, 0 to 2 % slopes (122) | 554 | Jenrid | Sandy loam | Alluvium derived from sedimentary rocks | Alluvial flats | 0 to 2% | Very deep | Well drained | Low | 0.28 | 86 | 7.09 | > 200 | 8 | Low |
| | | Green River | Loam | Alluvium derived from sedimentary, metamorphic, and igneous rocks | Floodplains, floodplain steps, levees, and terraces | 0 to 4 % | Very deep | Somewhat poorly to moderately well drained | Very low to low | | | | | | |
| Kilroy loam, 1 to 4 % slopes (123) | 8,381 | Kilroy | Loam | Alluvium derived from sandstone and quartzite | Fan remnants and strath terraces | 1 to 4 % | Very deep | Well drained | Low | 0.37 | 86 | 14.16 | > 200 | 4.5 | Low |
| Leebench sandy loam, 0 to 2 % slopes (128) | 2,572 | Leebench | Gravelly clay loam | Alluvium derived from sedimentary and metamorphic rocks | Alluvial fans, fan remnants, strath terraces, stream terraces, alluvial flats, and fan terraces | 0 to 10 % | Very deep | Well drained | Moderate | 0.28 | 86 | 10.91 | > 200 | 21.6 | Low |
| Leeko loam, 0 to 4 % slopes (129) | 1,417 | Leeko | Loam | Alluvium derived from sedimentary and metamorphic rocks | Strath terraces | 0 to 4 % | Very deep | Well drained | Low to moderate | 0.37 | 86 | 15.26 | > 200 | 24.6 | Low |
| Mikim silt loam, 2 to 4 % slopes (138) | 24 | Mikim | Loam | Alluvium derived from sandstone and shale | Alluvial fans, drainageways, and valleys | 0 to 15 % | Very deep | Well drained | Negligible to moderate | 0.55 | 86 | 16.6 | > 200 | 4.7 | Low |
| Smithpond-Montwel-Badland association, 3 to 25% slopes (142) | 2,574 | Smithpond | Gravelly fine sandy loam | Alluvium and eolian deposits derived from interbedded calcareous sedimentary rocks | Fan remnants, alluvial fans, structural benches, and mesas | 1 to 8 % | Very deep | Well drained | Very low to low | 0.24 | 86 | --- | > 200 | 2.5 | Moderate |
| | | Montwel | Loam | Slope alluvium and colluvium over residuum from variegated shale, siltstone, and sandstone | Hillslopes | 2 to 90 % | Moderately deep | Well drained | Low to high | | | | | | |
| | | Badland | --- | Soft geologic material | Barren land dissected by intermittent drainage channels | 1 to 100 % | Very shallow | --- | Very high | | | | | | |
| Motto-Muff-Rock Outcrop complex, 2 to 25 % slopes (153) | 1,988 | Motto | Extremely channery sandy loam | Slope alluvium over residuum derived from shale and sandstone | Hills and structural benches | 2 to 25 % | Shallow | Well drained | Moderate to very high | 0.15 | 48 | 8.8 | 43 | 35.4 | Low |
| | | Muff | Fine sandy loam | Residuum and slope alluvium weathered from sandstone or shale | Hillslopes, strath terraces, and summits | 0 to 30 % | Moderately deep | Well drained | Low to high | | | | | | |
| | | Rock outcrop | --- | Bedrock | Cliffs, escarpments, ledges, and erosional remnants | 1 to 100 % | --- | --- | Very high | | | | | | |
| Motto-Rock outcrop complex, 2 to 25 % slopes (154) | 17,175 | Motto | Extremely channery sandy loam | Slope alluvium over residuum derived from shale and sandstone | Hills and structural benches | 2 to 25 % | Shallow | Well drained | Moderate to very high | 0.15 | 48 | 6.71 | 43 | 35.4 | Low |
| | | Rock outcrop | --- | Bedrock | Cliffs, escarpments, ledges, and erosional remnants | 1 to 100 % | --- | --- | Very high | | | | | | |

| Soil Map Unit Name and Number | Acreage in Project Area[1] | Soil Series Name | Soil Texture | Parent Material | Landform | Slope | Depth Class | Drainage Class | Runoff | Water Erosion Potential (Kw) | Wind Erodability Index (tons/ac/yr) | Available Water Supply | Rooting Depth | SAR | Restoration Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Motto-Uffens complex, 2 to 25 % slopes (155) | 997 | Motto | Extremely channery sandy loam | Slope alluvium over residuum derived from shale and sandstone | Hills and structural benches | 2 to 25 % | Shallow | Well drained | Moderate to very high | 0.15 | 48 | 9.47 | 43 | 35.4 | Low |
| | | Uffens | Silt loam | Deltaic and alluvial sediments derived from mixed parent material | Terraces and fans | 0 to 12 % | Very deep | Well drained | Very low to low | | | | | | |
| Muff gravelly sandy loam, 2 to 8 % slopes (158) | 4,201 | Muff | Fine sandy loam | Residuum and slope alluvium weathered from sandstone or shale | Hillslopes, strath terraces, and summits | 0 to 30 % | Moderately deep | Well drained | Low to high | 0.15 | 56 | 11.37 | > 200 | 23.1 | Low |
| Nakoy loamy fine sand, 1 to 5 % slopes (160) | 1,485 | Nakoy | Loamy fine sand | Eolian material over alluvium derived from sedimentary and metamorphic rocks | Fan remnants | 0 to 5 % | Very deep | Well drained | Negligible to very low | 0.28 | 134 | 11.28 | > 200 | 7.7 | Low |
| Pariette gravelly sandy loam, 2 to 8 % slopes (173) | 4,262 | Pariette | Loam | Slope alluvium over residuum derived from shale interbedded with sandstone and siltstone | Fan remnants and strath terraces | 2 to 8 % | Moderately deep | Well drained | Low to moderate | 0.15 | 56 | 5.97 | > 200 | 8.5 | Low |
| Pherson-Hickerson complex, 1 to 8 % slopes (179) | 302 | Pherson | Gravelly loam | Alluvium derived from sandstone and shale | Alluvial fans, drainageways, and floodplain steps | 2 to 15 % | Very deep | Well drained | Very low to low | 0.15 | 48 | 12.38 | > 200 | 7.9 | Low |
| | | Hickerson | Loam | Alluvium derived from sandstone, shale, limestone, and quartzite rocks | Floodplains and alluvial flats | 1 to 4 % | Very deep | Moderately well drained | Low | | | | | | |
| Rock outcrop (193) | 67 | Rock outcrop | --- | Bedrock | Cliffs, escarpments, ledges, and erosional remnants | 1 to 100 % | --- | --- | Very high | Not rated | 0 | Not rated | 0 | 0 | Not rated |
| Shotnick sandy loam, 2 to 4 % slopes (206) | 320 | Shotnick | Sandy loam | Alluvium or eolian deposits over alluvium derived from sedimentary rocks | Alluvial flats, terraces, and hill toeslopes | 0 to 25 % | Very deep | Well drained | Negligible to moderate | 0.32 | 86 | 12.8 | > 200 | 3 | Low |
| Uffens loam, 3 to 8 % slopes (249) | 7,395 | Uffens | Silt loam | Deltaic and alluvial sediments derived from mixed parent material | Terraces and fans | 0 to 12 % | Very deep | Well drained | Very low to low | 0.42 | 86 | 13.6 | > 200 | 18.9 | Low |
| Uffens sandy loam, 0 to 2 % slopes (250) | 1,857 | Uffens | Silt loam | Deltaic and alluvial sediments derived from mixed parent material | Terraces and fans | 0 to 12 % | Very deep | Well drained | Very low to low | 0.32 | 86 | 9.54 | > 200 | 21 | Low |
| Umbo silty clay loam, 0 to 2 % slopes (252) | 1,288 | Umbo | Clay loam | Alluvium derived from quartzite, sandstone, shale, and limestone rocks | Alluvial flats | 0 to 4 % | Very deep | Somewhat poorly to moderately well drained | Negligible to low | 0.28 | 86 | 13.51 | > 200 | 8 | Low |
| Walknolls extremely channery sandy loam, 4 to 25 % slopes (256) | 3,749 | Walknolls | Channery sandy loam | Slope alluvium, colluvium, and residuum from sandstone | Hills, ridges, mesas, escarpments on cuestas, and side slopes | 2 to 90 % | Very shallow to shallow | Well drained | Very low to very high | 0.05 | 0 | 1.44 | 36 | 7.3 | Low |
| Walknolls-Rock Outcrop complex, 2 to 50 % slopes (264) | 3,271 | Walknolls | Channery sandy loam | Slope alluvium, colluvium, and residuum from sandstone | Hills, ridges, mesas, escarpments on cuestas, and side slopes | 2 to 90 % | Very shallow to shallow | Well drained | Very low to very high | 0.10 | 48 | 1.88 | 43 | 7.1 | Low |
| | | Rock outcrop | --- | Bedrock | Cliffs, escarpments, ledges, and erosional remnants | 1 to 100 % | --- | --- | Very high | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Walknolls-Uendal association, 2 to 25 % slopes (266) | 17,550 | Walknolls | Channery sandy loam | Slope alluvium, colluvium, and residuum from sandstone | Hills, ridges, mesas, escarpments on cuestas, and side slopes | 2 to 90 % | Very shallow to shallow | Well drained | Very low to very high | 0.10 | 48 | 3.51 | 43 | 7.1 | Low |
| | | Uendal | Gravelly sandy loam | Slope alluvium derived from sandstone | Hillslopes | 4 to 8 % | Moderately deep | Well drained | Low | | | | | | |
| Uffens-Rock outcrop complex, 15 to 25 % slopes (CZE2) | 1,665 | Uffens | Silt loam | Deltaic and alluvial sediments derived from mixed parent material | Terraces and fans | 0 to 12 % | Very deep | Well drained | Very low to low | Not rated | 0 | --- | 0 | 0 | Not rated |
| | | Rock outcrop | --- | Bedrock | Cliffs, escarpments, ledges, and erosional remnants | 1 to 100 % | --- | --- | Very high | | | | | | |
| Braf-Rock outcrop-Uffens complex, 5 to 50 % slopes (EZF2) | 11,174 | Braf | Sandy loam | Eolian deposits and slope alluvium and residuum derived from sandstone | Mesas and structural benches | 2 to 15 % | Shallow to very shallow | Somewhat excessively to excessively drained | Low to high | Not rated | 0 | --- | 0 | 0 | Not Rated |
| | | Rock outcrop | --- | Bedrock | Cliffs, escarpments, ledges, and erosional remnants | 1 to 100 % | --- | --- | Very high | | | | | | |
| | | Uffens | Silt loam | Deltaic and alluvial sediments derived from mixed parent material | Terraces and fans | 0 to 12 % | Very deep | Well drained | Very low to low | | | | | | |
| Mikim loam, 2 to 5 % slopes (MaB) | 980 | Mikim | Loam | Alluvium derived from sandstone and shale | Alluvial fans, drainageways, and valleys | 0 to 15 % | Very deep | Well drained | Negligible to moderate | 0.31 | 48 | --- | > 200 | 0 | Moderate |
| Cheeta-Rock outcrop complex, 30 to 80% slopes (RAL) | 871 | Cheeta | Extremely channery fine sandy loam | Slope alluvium and colluvium over residuum derived from limestone and sandstone | Canyons, cuestas, mesas, and mountain slopes | 30 to 80 % | Very shallow to shallow | Well drained | --- | 0.07 | 48 | --- | 5 | 2 | Low |
| | | Rock outcrop | --- | Bedrock | Cliffs, escarpments, ledges, and erosional remnants | 1 to 100 % | --- | --- | Very high | | | | | | |
| Undocumented | 2,703 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Water (258) | 177 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

[1] Total acreage estimates for the Project Area are based on GIS-software calculations and may not equal total acreage by soil map unit due to rounding, removal of overlapping development, and minute boundary discrepancies. GIS-based calculations are considered more accurate than estimates calculated using simple addition.

Sources: USDA 2003; http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx; draft soil mapping from Price Utah NRCS.